

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for the courtesy extended during the Examiner's phone interview with Applicant's representative on September 20, 2005.

Disposition of Claims

Claims 10-19 are pending in this application. Claim 10 and 19 are independent. The remaining claims depend, directly or indirectly, from claim 10.

Rejections under 35 U.S.C § 112**First Paragraph**

Claims 10-19 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, claim 10 was previously amended to recite that "plastic deformation of the positive stop torque shoulder does not occur *upon* final makeup." Applicant respectfully asserts that not having plastic deformation of the positive stop torque shoulder "upon final make up" is effectively equivalent to not having plastic deformation "prior to final make up," which is found in the specification on page 6, lines 1-2 of paragraph [0026]. By definition, "prior to final make up" would include the full range of torque applied up to, but technically not including, the maximum torque applied to achieve final make up of the connection. For example, if final make up was 5,000 ft*lbs of torque, then "prior to final make up" would include 4,999 ft*lbs of torque. To have plastic deformation "upon" final make up without having plastic deformation "up to" final make up would be nearly impossible due to the tolerances that would have to be maintained during manufacture of the connection, among other limitations, to have such a precise condition. Accordingly, the Applicant believes

that avoiding plastic deformation upon final make up is inherent in any connection avoiding plastic deformation prior to final make up.

As discussed in the telephonic interview on September 20, 2005, Applicant believes that reciting that there is no plastic deformation upon final make up is clearer for those attempting to discern the scope of the present invention. Accordingly, Applicant respectfully requests that the previous amendment of claim 10 be allowed. Removal of this rejection is respectfully requested.

Second Paragraph

Claim 10 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 has been amended in this reply to clarify the present invention. As amended, claim 10 recites “a torque is applied such that plastic deformation” does not occur. Specifically, “irreversible” was deleted from claim 10. Accordingly, removal of this rejection is respectfully requested.

Rejections under 35 U.S.C § 102

Claims 10, 11, and 15-19 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,462,315 (“Klementich”). This rejection is respectfully traversed.

Klementich shows a made up connection of a pin member and a box member with a shoulder. Specifically in Klementich, a connection is disclosed in which “shoulders 520 and 540 move into position, typically they begin to bend slightly, closing the gap between surface 524 on the first center shoulder configuration 510 and surface 544 on second center

shoulder configuration 530,” (beginning at column 22, line 35). Bending of the shoulders is taught and relied upon by Klementich during makeup of the connection to produce two metal-to-metal seals. Further, “upon final power tightening (torquing) of the assembled connection, the leading surface of shoulder 520 contacts first undercut surface 548 on box center shoulder configuration 530, while the leading surface of shoulder 540 contacts second undercut surface 528 on pin center shoulder configuration 500, thereby creating two additional zero clearance, metal to metal sealing surfaces,” (beginning at column 22, line 45).

Initially Klementich shows the connection is made up until bending occurs, or elastic deformation *at least* occurs, in the shoulders of the pin and box member to produce two metal-to-metal seals. After bending is initiated in the connection, final power tightening (torquing) is then applied to the connection to produce at least two more metal-to-metal seals in the connection. If plastic deformation did not occur in the initial makeup of the connection and only elastic deformation occurred, plastic deformation would have to occur upon final power tightening of the connection. The two metal-to-metal seals produced in the initial makeup of the connection would yield and plastically deform to allow for the subsequent two metal-to-metal seals to be made up upon final power tightening. It is apparent that plastic deformation is relied upon to form the at least four metal-to-metal seals disclosed in the connection of Klementich. In contrast, the method of the present invention has a torque selected to avoid this very phenomenon. The present inventors have advantageously discovered that avoiding plastic deformation of the positive stop torque shoulder increases the life of the connection without a significant loss in performance.

Because Klementich fails to show or suggest all of the limitations found in amended claim 10, Klementich fails to anticipate or render obvious amended claim 10. Thus,

withdrawal of this rejection is respectfully requested. Claims 11 and 15-19, which depend from claim 10, are patentable for at least the same reasons.

Rejections under 35 U.S.C § 103

Claims 12-14 were rejected under 35 U.S.C. § 103 as obvious over Klementich in view of U.S. Patent No. 4,822,081 (“Blose”). Claim 10, from which claims 12-14 depend, was amended in the previous reply and in this reply as discussed above. To the extent that the Examiner maintains the rejection to claims 12-14, the rejection is respectfully traversed.

As discussed above, Klementich fails to show or suggest the avoidance of plastic deformation of the positive stop torque shoulder. Blose neither shows nor suggests that which Klementich lacks with respect to amended claim 10. Further, Blose actually discloses the selective use of plastic deformation to strengthen the connection and improve sealing (column 4, lines 28-66). Beginning in Blose at column 9, line 22, “The mating shoulders 41 and 43 and end faces 42 become deformed after making contact upon application of high axial compressive loading – e.g. driving forces... The shoulders may coin unelastically during driving of the casing.” The term “coin” is defined as deform at column 4, line 46-47 in Blose. It is apparent that Blose discloses making up the connection until plastic deformation occurs, in contrast to the presently claimed invention. Thus, Blose teaches away from the Examiner’s proposed combination with Klementich and reinforces Applicant’s assertion that selecting a torque to avoid plastic deformation of a positive stop torque shoulder is novel and non-obvious.

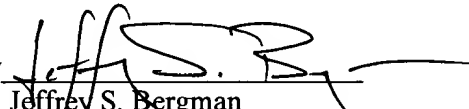
In view of the above, Klementich and Blose, whether considered separately or in combination, fail to show or suggest the present invention as recited in amended claim 10. Thus, the amended claim 10 is patentable over Klementich and Blose. Dependent claims 12-14 are

allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 09432/183002).

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Respectfully submitted,

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